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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/584,047	05/30/2000	Yu-Suk Yun	678-488 (P9205)	9893

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Paul J Farrell Esq  
Dilworth & Barrese  
333 Earle Ovington Blvd  
Uniondale, NY 11553

EXAMINER

GARY, ERIKA A

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/584,047

Applicant(s)

YUN ET AL.

Examiner

Erika A. Gary

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 3-5, 7, 9, 11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Nanda et al., US Patent Number 5,842,113 (hereinafter Nanda).

Regarding claim 3, Nanda discloses a mobile communication system comprising: a transmission power controlling circuit for receiving a data signal to transmit and power control information, for controlling a gain of the data signal based on the power control information, thereby controlling the transmission power of the data signal; and an offset controlling unit connected to the transmission power controlling circuit, for receiving a gating information signal, and for outputting an offset signal indicating a gain value for compensating the transmission power according to the gating rate; wherein the transmission power controlling circuit controls the transmission power of the data signal by adding the offset to or subtracting the offset from the gain value [fig. 3; col. 1: lines 49-67].

Regarding claim 4, Nanda discloses an offset table storage for storing offsets with respect to variations in gating rates according to state transition and variations in gating rates in a same state; and an offset controller for receiving state transition and

gating rate information from a higher layer, for reading an offset corresponding to the received information, and for outputting the offset to the outer-loop power controller [fig. 6; col. 2: lines 24-26; col. 5: lines 38-67].

Regarding claim 5, Nanda discloses a receiving device in a CDMA mobile communication system, which receives information about a pre-transition gating rate and a post-transition gating rate from a base station upon state transition, comprising: an offset table storage for storing offsets according to state transitions; an offset controller for receiving state transition information through a higher layer message, and for reading an offset corresponding to the state transition information from the offset table storage; and an outer-loop power controller for storing a previous threshold, for performing an outer-loop power control operation by adding the previous threshold to the offset received from the offset controller, and for outputting a threshold [col. 1: lines 49-67; fig. 6; col. 2: lines 24-26; col. 5: lines 38-67].

Regarding claim 7, Nanda discloses a receiving device in a CDMA mobile communication system, which receives information from a base station upon a state transition, said information including pre-transition and post-transition gating rate information and an offset table, said offset table listing offsets versus state transitions, comprising: an offset table storage for storing an offset table; an offset controller for receiving the offset table through a higher layer message, for storing the offset table in the offset table storage, for receiving state transition information, and for reading an offset corresponding to the state transition information from the offset table storage; and an outer-loop power controller for storing a previous threshold, for performing an outer-

loop power control operation by adding the previous threshold to the offset received from the offset controller, and for outputting a threshold [col. 1: lines 49-67; fig. 6; col. 2: lines 24-26; col. 5: lines 38-67].

Regarding claim 9, Nanda discloses a receiving device in a CDMA mobile communication system, which receives an offset with respect to a pre-transition gating rate and a post-transition gating rate from a base station upon state transition, comprising: an offset controller for detecting and receiving an offset through a higher layer message and for outputting the offset; and an outer-loop power controller for storing a previous threshold, for performing an outer-loop power control operation by adding the previous threshold to the offset received from the offset controller, and for outputting a threshold [col. 1: lines 49-67; fig. 6; col. 2: lines 24-26; col. 5: lines 38-67].

Regarding claim 11, Nanda discloses a power controlling method in a CDMA mobile communication system in which information is received from a base station upon a state transition, said information including pre-transition and post-transition gating rate information and an offset table, said offset table having offsets versus state transitions, comprising the steps of: receiving the offset table through a higher layer message; storing, by an offset controller, the offset table in an offset table storage; receiving state transition information through the higher layer message; reading, by the offset controller, an offset corresponding to the state transition from the offset table; performing an outer-loop power control operation by adding a previous threshold to the offset received from the offset controller; and outputting, by an outer-loop power controller, a threshold [col. 1: lines 49-67; fig. 6; col. 2: lines 24-26; col. 5: lines 38-67].

Regarding claim 13, Nanda discloses a power controlling method in a CDMA mobile communication system in which an offset with respect to a pre-transition gating rate and a post-transition gating rate is received from a base station upon state transition, comprising the steps of: detecting, by an offset controller, an offset in a higher layer message; outputting, by and offset controller, the offset; performing an outer-loop power control operation by adding a previous threshold to the offset received from the offset controller; and outputting, by an outer-loop power controller, a threshold [col. 1: lines 49-67; fig. 6; col. 2: lines 24-26; col. 5: lines 38-67].

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nanda in view of Chen et al., US Patent Number 6,373,823 (hereinafter Chen).

Regarding claim 1, a power controlling device in a mobile communication system, comprising: a frame error detector for detecting an error from a frame of a predetermined length and for generating an error signal indicating whether an error has been generated; an outer-loop power controller for increasing the threshold to generate power control information commanding power increase in response to an error signal indicating the existence of a frame error and for decreasing the threshold to generate

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power control information commanding power decrease in response to an error signal indicating the absence of a frame error; and an offset controlling unit connected to the outer-loop power controller, for receiving gating information about gated transmission of data in a frame at a predetermined rate and for generating an offset signal indicating an offset corresponding to a changed gating rate if the gating rate is changed [col. 1: lines 49-67; fig. 6; col. 2: lines 24-26; col. 3: line 56 – col. 4: line 2; col. 5: lines 38-67].

What Nanda does not specifically disclose is a closed-loop power controller for comparing a threshold with a signal-to-noise ratio for generating power control information according to the comparison result. However, Chen teaches this limitation [col. 3: lines 57-60]. Chen does not specifically state that the signal-to-noise ratio is based on the signal-to-noise ratio of each power control group, but this is understood, as Chen discloses generating power control commands by comparing the SNR of forward link signals [col. 3: lines 27-30].

Nanda and Chen are combinable because they are from the same field of endeavor, that is, power control for controlling transmission power in a mobile communication system. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Nanda to include Chen. The motivation for this combination would have been to incorporate closed-loop power control with outer-loop power control for more effectively adjusting the power by also taking the signal-to-noise ratio into account.

Regarding claim 2, Nanda discloses an offset table storage for storing offsets with respect to variations in gating rates according to state transition and

variations in gating rates in a same state; and an offset controller for receiving state transition and gating rate information from a higher layer, for reading an offset corresponding to the received information, and for outputting the offset to the outer-loop power controller [fig. 6; col. 2: lines 24-26; col. 5: lines 38-67].

5. Claims 6, 8, 10, 12, and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Nanda in view of Chen.

Regarding claim 6, 8, 10, 12, and 14, Chen discloses a closed-loop power controller for receiving the threshold and for performing a closed-loop power control operation [col. 3: lines 57-60].

Nanda and Chen are combinable because they are from the same field of endeavor, that is, power control for controlling transmission power in a mobile communication system. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Nanda to include Chen. The motivation for this combination would have been to incorporate closed-loop power control with outer-loop power control for more effectively adjusting the power by also taking the signal-to-noise ratio into account.

### ***Response to Arguments***

6. Applicant's arguments filed August 6, 2003, with respect to Nanda have been fully considered but they are not persuasive. Applicant argues that Nanda does not teach that the offset value for controlling the transmission power differs according to the



gating rate. However, the Examiner respectfully disagrees. Nanda discloses a table of offset values in figure 6 with offsets varying according to the gating rate, just as the Applicant teaches this on page 27, table 2 in Applicant's specification. Nanda further discusses the offsets varying with the gating rates in column 5, lines 38-67.

Applicant further argues that Chen does not disclose determining whether or not frame errors are generated and compensating for the transmission power based on the frame error and the offset value. However, Nanda teaches these limitations as noted by the Examiner in the disclosure in column 3, line 56 through column 4, line 2. Applicant's arguments regarding Chen's signal-to-noise ratio are moot based on Examiner's new ground of rejection for claim 1.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erika A. Gary whose telephone number is 703-308-0123. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh N. Tran can be reached on 703-305-4040. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750 or to the 2600 Customer Service Office at 703-306-0377.

**Any response to this action should be mailed to:**


Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872-9306 (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive Arlington, VA., Sixth Floor (Receptionist).

EAG  
October 19, 2003

  
ERICA GARY  
PATENT EXAMINER